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Hog Creek Review

Living Long

Greater longevity and increasing the number of happy and healthy years of one's life is a dream of many. How can one increase the number of years one lives a happy and healthy life? There are numerous variables that influence longevity, from genetic factors to lifestyle choices. Like most things, longevity is a product of both nature and nurture. This means that longevity is determined by both genetics and the environment. Fortunately for those who wish to increase their longevity, life expectancy is not solely dependent upon one's genetic makeup; lifestyle choices and behaviors can also have a say.

Although longevity is partially impacted by the environment, the role of genetics cannot be ignored when dealing with the concept of longevity. One good predictor of how long one will live is how long one's closest relative lives. Another genetic component that influences longevity is the ability to cope with disease. Those who are genetically predisposed to better cope with disease and illnesses naturally fare better and tend to live longer than those who are not. Those with a greater threshold for disease also tend to live longer due to the fact that they may have greater resiliency and are able to endure diseases or illnesses for longer periods of time without having significant setbacks. Resiliency, the ability to "bounce back" easily from illness or physical ailments, is another genetic component that correlates with greater longevity.

More specifically, the Massachusetts Institute of Technology has suggested that there are some genes that appear to use energy more efficiently, which in turn maintains life-sustaining processes 30 percent beyond the average person (Park, 2010). Evidence like this suggests that there are specific genes in some people that allow them to live longer than the average person, as well as broader genetic trends that correlate with longevity. Fortunately

for those who may not have these "elite" genes that permit them to live to see age 100 or beyond, only about 30 percent of aging is based on genetics, according to the article "How to Live 100 Years" (Park, 2010). However, the article does suggest that for centenarians, those who are 100 years or older, genetics is likely largely responsible for their longevity (Park, 2010). For the rest of us though, the number of years we live is mainly determined by our lifestyle choices.

The average person who is not as lucky to have the elitist, superior genes of the centenarians can increase his/her longevity by choosing to maintain good health and lifestyle behavioral patterns. Some lifestyle behaviors that have been correlated with longevity according to the article "Ten Years of Life," are a healthy body mass index, not smoking cigarettes, frequent consumption of nuts, high physical activity, and vegetarianism (Fraser & Shavlik, 2001). The study presented in the article looked at these lifestyle factors in the California Seventh-Day Adventist population. California Adventists live longer, on average, than other white Californians by about 7.2 years in men, and by about 4.4 years in women (Fraser & Shavlik, 2001). The study was a correlational one, not an experimental study, meaning that we cannot draw causal claims from the results. However, it is suggested in the article that these factors in combination correlate with longevity, and have actually accounted for up to a ten-year difference of life expectancy among Adventists (Fraser & Shavlik, 2001). Thus, it can be inferred that behaviors such as exercising regularly, eating a healthy diet that includes nuts, limiting meat consumption, maintaining a healthy weight, and not smoking can lead to an increase in the number of years one can expect to live.

Caloric restriction is another environmental factor that has been suggested to increase longevity in humans. Animal studies, specifically yeast, flies, and rodents, have proven that dramatically decreasing caloric intake can cause increases in life expectancy (Park, 2010). Although whether this same effect occurs in humans has not yet been extensively studied, it is believed that humans, too, may benefit from decreasing their calorie intake. One specific location where this hypothesis is thought to be true is Okinawa, Japan. The people of Okinawa take significantly fewer calories than other populations, and it has been shown to be beneficial due to the high number of centenarians in the Okinawan population.

Consequently, eating fewer calories seems to also be a correlate of longevity.

Other environmental factors that affect longevity are diseases, cancers, and toxins. All of these factors are detrimental to one's health, and of course, do not correlate with longevity. Although events like developing cancer are sometimes out of one's control, others such as ingesting toxins and developing cardiovascular disease or diabetes can be avoided simply by maintaining a healthy lifestyle and a healthy diet. Exercising, eating a healthy diet, maintaining a healthy weight, and not smoking are all factors that contribute to leading a long, healthy life, while decreasing one's risk for developing diseases. Eating a healthy diet also helps protect the body from harmful toxins that can lead to the development of certain cancers. Naturally, by not smoking, one can protect oneself from lung cancer, the most preventable type of cancer. Factors like exercise, a healthy diet, a healthy weight, and not smoking, which were mentioned as characteristics of the long-living California Adventists, can help to prevent or stave off these unfortunate events that decrease longevity.

Undoubtedly, both genetics and environmental factors influence longevity. Neither can be ignored when looking at longevity as a whole. Fortunately though, the large influence that lifestyle choices and behaviors seem to have on how long one lives provides hope for those who wish to increase their longevity. Even if they do not possess superior genes, individuals who choose to live a healthy lifestyle can exert a significant amount of control on how long they live.

References

Fraser, G. E., & Shavlik, D. J. (2001). Ten years of life. Archives of Internal Medicine, 161, 1645-1652.

Park, A. (2010, February). How to live 100 years. Time, 175, 56-66.